with (i) nucleotides 568 to 2045 of SEQ ID NO:1, (ii) the cDNA sequence contained in nucleotides 568 to 2045 of SEQ ID NO:1, or (iii) a complementary strand of (i) or (ii); and

(d) a subsequence of (a), (b), or (c), wherein the subsequence encodes a polypeptide fragment which has phospholipase B activity.

101. Cancelled

102. (Currently Amended) The nucleic acid sequence of claim ~~101~~ 100, which encodes a polypeptide having an amino acid sequence which has at least 90% identity with amino acids 20 to 464 of SEQ ID NO:2.

103. (Previously Presented) The nucleic acid sequence of claim 102, which encodes a polypeptide having an amino acid sequence which has at least 95% identity with amino acids 20 to 464 of SEQ ID NO:2.

104. (Previously Presented) The nucleic acid sequence of claim 103, which encodes a polypeptide having an amino acid sequence which has at least 97% identity with amino acids 20 to 464 of SEQ ID NO:2.

105. (Previously Presented) The nucleic acid sequence of claim 100, which encodes a polypeptide comprising the amino acid sequence of SEQ ID NO:2.

106. (Previously Presented) The nucleic acid sequence of claim 100, which encodes a polypeptide consisting of the amino acid sequence of SEQ ID NO:2, or a fragment thereof which has phospholipase B activity.

107. (Previously Presented) The nucleic acid sequence of claim 106, which encodes a polypeptide consisting of amino acids 20 to 464 of SEQ ID NO:2.

108. Cancelled

109. (Currently Amended) The nucleic acid sequence of claim ~~108~~ 100, which has at least 90% homology with nucleotides 568 to 2045 of SEQ ID NO:1.

110. (Previously Presented) The nucleic acid sequence of claim 109, which has at least 95% homology with nucleotides 568 to 2045 of SEQ ID NO:1.

111. (Previously Presented) The nucleic acid sequence of claim 110, which has at least 97% homology with nucleotides 568 to 2045 of SEQ ID NO:1.

112. (Previously Presented) The nucleic acid sequence of claim 100, which has the nucleic acid sequence of SEQ ID NO:1.

113. Cancelled

114. (Currently Amended) The nucleic acid sequence of claim ~~113~~ 100, which hybridizes under medium-high stringency conditions with (i) nucleotides 568 to 2045 of SEQ ID NO:1, (ii) the cDNA sequence contained in nucleotides 568 to 2045 of SEQ ID NO:1, or (iii) a complementary strand of (i) or (ii).

115. (Previously Presented) The nucleic acid sequence of claim 114, which hybridizes under high stringency conditions with (i) nucleotides 568 to 2045 of SEQ ID NO:1, (ii) the cDNA sequence contained in nucleotides 568 to 2045 of SEQ ID NO:1, or (iii) a complementary strand of (i) or (ii).

116. (Previously Presented) The nucleic acid sequence of claim 100, contained in *E. coli* pPH6 as deposited with NRRL under accession number B-30142.

117. (Currently Amended) An isolated nucleic acid sequence encoding a polypeptide having phospholipase B activity, said nucleic acid sequence obtained by (a) identifying a clone containing a nucleic acid sequence which hybridizes under medium-high stringency conditions with (i) nucleotides 568 to 2045 of SEQ ID NO. 1, (ii) the cDNA sequence contained in nucleotides 568 to 2045 of SEQ ID NO. 1, or (iii) a complementary strand of (i) or (ii); and (b) isolating the nucleic acid sequence encoding a polypeptide having phospholipase B activity from the clone.

118. Cancelled

119. (Currently Amended) The nucleic acid sequence of claim ~~118~~ 117 obtained by (a) identifying a clone containing a nucleic acid sequence which hybridizes under high stringency conditions with (i) nucleotides 568 to 2045 of SEQ ID NO. 1, (ii) the cDNA sequence contained in nucleotides 568 to 2045 of SEQ ID NO. 1, or (iii) a complementary strand of (i) or (ii); and (b) isolating the nucleic acid sequence encoding a polypeptide having phospholipase B activity from the clone.

120. (Previously Presented) A nucleic acid construct comprising the nucleic acid sequence of claim 100 operably linked to one or more control sequences which direct the production of the polypeptide in a suitable expression host.

121. (Previously Presented) A recombinant expression vector comprising the nucleic acid construct of claim 120.

122. (Previously Presented) A recombinant host cell comprising the nucleic acid construct of claim 120.

123. (Previously Presented) A method for producing a polypeptide having phospholipase B activity comprising (a) cultivating a strain comprising the nucleic acid sequence of claim 100 under conditions suitable for producing the polypeptide; and (b) recovering the polypeptide.

124. (Previously Presented) A method for producing a polypeptide having phospholipase B activity comprising (a) cultivating the recombinant host cell of claim 122 under conditions suitable for production of the polypeptide; and (b) recovering the polypeptide.

125. (Previously Presented) A nucleic acid construct comprising a gene encoding a protein operably linked to a nucleic acid sequence encoding a signal peptide consisting of nucleotides 510 to 567 of SEQ ID NO. 1, wherein the gene is foreign to the nucleic acid sequence.

126. (Previously Presented) A recombinant expression vector comprising the nucleic acid construct of claim 125.

127. (Previously Presented) A recombinant host cell comprising the nucleic acid construct of claim 125.

128. (Previously Presented) A method for producing a protein comprising (a) cultivating the recombinant host cell of claim 127 under conditions suitable for production of the protein; and (b) recovering the protein.

REMARKS

Claims 101, 108, 113, 118 have been cancelled. Claims 100, 102, 109, 114, 117, and 119 have been amended. Claims 100, 102-107, 109-112, 114-117, and 119-128 are pending in the present application.

It is respectfully submitted that the present amendment presents no new issues or new matter and places this case in condition for allowance. Reconsideration of the application in view of the above amendments and the following remarks is requested.

I. The Rejection of Claims 100-104, 108-111, 113-115, and 117-124 under 35 U.S.C. § 112, First Paragraph

Claims 100-104, 108-111, 113-115, and 117-124 remain rejected under 35 U.S.C. § 112, first paragraph, "as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention." The Office Action states:

> Appellant argues that the limitations with respect to hybridization with and per cent identity to SEQ ID NO: 1 dictates structural similarity between the claimed genus and the single disclosed nucleic acids. However, the claims further require that the claimed nucleic acid sequence encode a phospholipase B. Appellant has provided no evidence to support a contention that structural similarity between nucleic acids in any way determines whether the polypeptides they encode (if any) share a specific function.

This rejection is respectfully traversed.

The present invention relates to isolated nucleic acid sequences encoding a polypeptide having phospholipase B activity, selected from the group consisting of: (a) a nucleic acid sequence encoding a polypeptide having an amino acid sequence which has at least 90% identity with amino acids 20 to 464 of SEQ ID NO:2; (b) a nucleic acid sequence having at least 90% homology with nucleotides 568 to 2045 of SEQ ID NO:1; (c) a nucleic acid sequence which hybridizes under medium-high stringency conditions with (i) nucleotides 568 to 2045 of SEQ ID NO:1, (ii) the cDNA sequence contained in nucleotides 568 to 2045 of SEQ ID NO:1, or (iii) a complementary strand of (i) or (ii); and (d) a subsequence of (a), (b), or (c), wherein the subsequence encodes a polypeptide fragment which has phospholipase B activity.

The essential feature of the claimed invention is isolated nucleic acids that hybridize to nucleotides 568 to 2045 of SEQ ID NO: I under the specified stringency conditions and have a specified percent homology and encode polypeptides with a specific function, *i.e.*, phospholipase B

activity. The art indicates that hybridization techniques using a known DNA as a probe under the specified stringency conditions were conventional in the art at the time of filing. The claim is drawn to nucleic acids all of which must hybridize with nucleotides 568 to 2045 of SEQ ID NO: 1 and must encode a protein with phospholipase B activity.

One of ordinary skill in the art would not expect substantial variation among species encompassed within the scope of the claims because the specified hybridization and percent identity conditions set forth in the claims yield structurally similar DNAs and proteins. There are hundreds of papers where genes coding for proteins of similar function were cloned on the basis of hybridization to heterologous probes under a variety of stringency conditions. In such cases, the structurally similar proteins have a high degree of identity. Such cross-hybridization is to a significant extent predictive of gene relatedness, and gene relatedness is in turn predictive of functional similarity.

To further prosecution of the present application, the claims now recite medium-high and high stringency and at least 90% identity or 90% homology.

The Office Action states "Appellant has provided no evidence to support a contention that structural similarity between nucleic acids in any way determines whether the polypeptides they encode (if any) share a specific function." It is well settled that the burden is on the Patent Office, not the Applicant, to provide that there is no evidence to support the contention that structural similarity between nucleic acids in any way determines whether the polypeptides they encode (if any) share a specific function. See, for example, *In re Marzocchi*, 169 U.S.P.Q. 367, 369 (C.C.P.A. 1971); *In re Dinh-Nguyen*, 181 U.S.P.Q. 46, 47 (C.C.P.A. 1974); and *In re Stark*, 172 U.S.P.Q. 402, 406 n. 4 (C.C.P.A. 1972).

For the foregoing reasons, Applicant submits that the rejections under 35 U.S.C. § 112 have been overcome and respectfully requests reconsideration and withdrawal of the rejections.

II. The Rejection of Claims 100-104, 108-111, 113-115, and 117-124 under 35 U.S.C. § 112, First Paragraph

Claims 100-104, 108-111, 113-115, and 117-124 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a nucleic acid sequence encoding phospholipase B wherein either the nucleic acid sequence comprises nucleotides 568 to 2045 of SEQ ID NO: 1 or the polypeptide comprises amino acids 20-464 of SEQ ID NO: 2, does not reasonably provide enablement for any other embodiments lying outside this scope. The Office Action states:

> With respect to the enablement rejection, the claimed nucleic acid sequence is not limited to nucleic acid sequences which can be isolated from other organisms, and the

specification provides no guidance as to what other organisms would provide a source for nucleic acid sequences embraced by the claims.

This rejection is respectfully traversed.

The specification on page 9, line 7, to page 10, line 30, provides guidance as to what other organisms could provide a source for nucleic acid sequences embraced by the claims.

Applicant submits, therefore, that the information disclosed in the specification combined with the knowledge of the art provides sufficient guidance to one of ordinary skill in the art to isolate such nucleic acids from other strains. Thus, there is sufficient enabling description in the specification to direct and guide the skilled artisan to practice the claimed invention.

For the foregoing reasons, Applicant submits that the rejections under 35 U.S.C. § 112 have been overcome. Applicant respectfully requests reconsideration and withdrawal of the rejections.

III. Conclusion

In view of the above, it is respectfully submitted that all claims are in condition for allowance. Early action to that end is respectfully requested. The Examiner is hereby invited to contact the undersigned by telephone if there are any questions concerning this amendment or application.

Respectfully submitted,

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